

High Transmittance Sub-Wavelength Structure Polarization Module

ABSTRACT

5 The present invention relates to a high-transmission polarization module
composed of sub-wavelength structures, which comprises: a transmission
substrate and a plurality of collimation units. The transmission substrate
possesses a top and a bottom surfaces. The top surface has a plurality of
projecting and sunken parts, wherein the sunken part has a first sub-
10 wavelength structure while the projecting part has a second sub-wavelength
structure. The collimation units are arranged on the bottom surface
according to the positions of the sunken parts capable of guiding the light
into the sunken part. The first sub-wavelength structure is capable of
separating the light with different polarizations while the second sub-
15 wavelength structure is capable of shifting the phase of the light so that the
light can pass the polarization module with a high efficiency and producing
a light with a specific polarization.